has been elaborated, based on different land areas, quantities of water, capital investment and production quotas, but with equal average prospects to obtain a uniform net income. This technique is of particular importance in periods of rapid transition from subsistence farming to diversified farming or from diversified farming to specialised farming. It provides the planner with an adequate tool for achieving a fair distribution of the development effort between agriculture and other forms of economic activity and among the individual farmers, and constitutes a direct and logical link between macro- and micro-planning.

Agriculture in Israel during the last decade has taken a sharp turn from diversified farming to specialised farming, based on family farms with a minimum number of branches of economic size whose structure is determined by the special conditions of the region. Micro-planning in Israel is based on four main farm-types, namely the dairy farm, the citrus farm, the field-crop farm, and lately also the specialised export farm. From these models are derived secondary types according to regions, and with their aid the government is able to attain the required equilibrium between macro- and micro-development.

Comprehensive planning

The combination of the above systems determine the comprehensive rural planning requirements which must be considered with a view to maintaining a certain balance between agriculture, industry and services so as to preserve the social stability of the rural areas. Experience has shown the need for integrating industry in rural areas, for the following reasons:

1. In order to transfer the surplus of man-power to industries close to their homes so as to prevent mass emigration to the city; this requirement is of special importance in patriachal-traditional societies.

2. The establishment of industries in rural areas will provide markets for agricultural produce within the rural area. Instead of transporting agricultural produce over a great distance to the city, at least part of it can be sold in the nearby industrial centres.

3. In order to reduce the costs of agricultural production by saving on the transportation costs of the produce. The sugar industry may serve as an example: The cost of transporting sugar-beet from field to factory and reconveying the pulp to the farmers is a major item in sugar-manufacturing costs, which will become lower the closer the plant is situated to the field. Of course, other factors must be taken into account in determining the site and size of such a plant, on which depend the direct expenses of the industrial process. It should, however, be stressed that in estimating the profitability of establishing an industrial enterprise, industrial profitability as such is no sufficient indication. Sometimes its establishment may serve as an impetus to arouse hitherto dorman forces in agriculture, leading to new kinds of agricultural activity which would otherwise have stood no chance in that particular region. Again, only an all-round programme calculated, evaluated and tested by comprehensive planning methods, should be applied.

4. In order to make efficient use of the labour force of the farmer's family during "low periods". This problem is particularly acute in marginal areas where during certain seasons agriculture fails to provide a full employment income to the farmer. The farms in the Judean Mountain

Region in Israel may serve as an example. This region has many limitations: the areas suited for profitable cultivation are scattered and limited; water is expensive, the number of suitable crops is small and these require a large labour input during short periods, followed by so-called "dead seasons". Comprehensive planning has recently led to a proposal which seems capable of providing at least a possible solution: a regional village organisation will ensure - that, during peak agricultural seasons (in this case in summer), the rural labour forces will be supplied from outside to carry out all the required work, while during the low season (in winter) the farmer will be provided with a source of permanent employment outside his farm. One of the farm-types proposed for this area is based mainly on tobacco-growing and sheep-raising. In July-August the work-load on such a farm will necessitate input of outside labour. From October until February, on the other hand, the farm family will be free for outside work. It is therefore proposed to set up an industrial enterprise in the region where the main work will be carried out during the winter season. In this particular case, it was proposed to set up a central depot for sorting, fermenting and packing of tobacco, to absorb the entire tobacco harvest of the area and provide seasonal employment for the farmers in winter. In summer, the enterprise will release its regular labourers to work on the farms.

A second prerequisite of comprehensive rural planning concerns the development and location of the educational and economic services, because (a) the social needs of the rural population require a higher cultural and educational standard and the creation of a gap between town and country must be avoided; (b) suitable conditions must be created in the rural areas to prevent the defection of those who have acquired education and know-how and are able to serve as the activating and guiding elements so badly needed in modern rural development. These conditions might be suitable even for attracting professional personnel from outside the rural areas and may form an adequate base for the development team as explained later. Experience in Israel has proved that this is feasible; (c) suitable conditions must be created to develop economic institutions, e.g. for sorting, packing and processing of agricultural produce, regional tractor stations, and adequate but not over-costly purchasing, sales and credit services.

All these require a new approach to rural development planning, especially in the developing countries. As we have seen, such planning requires integration of agriculture, industry and the services within well-defined regions, while the study of the interaction of these factors from the social, economic, organisational, environmental and political aspect must be intensified and deepened.

One of the solutions evolved in Israel in the described direction is the "composite rural structure", consisting of a number of villages linked to one rural centre. This contains the various services and the required industrial plants. A number of such composite communities constitute a development zone, with a township at its centre. This urban centre differs from the rural centre in that it includes institutions and industrial enterprises at a higher level, which for economic reasons cannot exist in the rural centre, such as secondary schools, a hospital or central clinic, larger factories, and the like. The size of the urban centre and its institutions is determined by the number of rural communities and families it serves. Such a triple-layer regional structure serves in Israel as a general model for comprehensive planning, not only for new settlement areas but also for settled regions in need of agrarian reform and a new

impetus for development.

Planning and implementation

Agricultural planning is concerned with a dynamic process and thus cannot be separated from the executive level. Moreover, the process of implementation must constantly be brought to bear on the theory of planning. Four interrelated and mutually inter-acting phases may thus be distinguished in agricultural and rural development:

(a) The objectives of the development effort must be determined and clearly formulated, whether they be purely economic, socio-political, financial or of a composite nature.

(b) Planning proper, i.e. the survey of basic data required to assess the development of the basic factors affecting micro- and macro-planning, laying dow.. a policy capable of channelling such factors to the predetermined goal, and finally, the study of the interrelation between both systems and the drawing of inferences as to the comprehensive development of the rural areas from the numerous aspects reviewed.

(c) Preparation of the execution stage or the implementation stage, i.e. preparing the organisation, the means and the rules by which the developing authority will put the plan into practice.

(c) Follow-up of the execution stage, i.e. drawing current and systematic conclusions in the course of development, by which to test the goals set and the aptness of the plan. Such follow-up may lead the developing authority to alter its objectives or its plan, or various stages of it, and hence the need for such a built-in feed-back mechanism at all stages andlevels of the development process and hierarchy.

Planning should therefore be regarded as a dynamic process, closely associated with implementation until the full achievement of the final objectives. This leads to far-reaching conclusions regarding the organisation of the bodies dealing with rural and agricultural development and the link between policy-makers, planners, professional men and executives. Experience in Israel has shown that these ties must be close and constant, not only at the higher levels of the hierarchy, but through all grades down to the regional offices which are in daily contact with those for whom the development plan is designed. We shall cite here only three main conclusions from the large number arrived at:

1. A non-centralised organisation is preferable to a centralised structure of the development authority, so that even the lowest ranks of the hierarchy may be free in shaping their day-to-day work.

2. The development teams must include all the necessary professions: economists, sociologists, agricultural scientists and organisers. Each team should be headed by a policy-maker, well-versed in comppehensive rural planning, with practical and theoretical training in this field, and endowed with an overall point of view, who is capable of allocating the proper role to each profession. Such comprehensive planners are newcomers to the agricultural development scene, and have

grown from an empiric study of requirements. The time has come to introduce special courses at universities for preparing such team leaders.

3. The development team is not merely called upon to direct and coordinate planning activities. It must also undertake the active leadership of the region under its guidance, so as to bring its influence to bear on those for whom the development programme has been devised. In order to carry out its work faithfully the team must not only live and become integrated within the development area, but must also evolve suitable methods of training and instruction easily understandable to the rural population in question. Much further study and applied research is required in this respect, for experience in Israel has proved the decisive importance of such collaboration regarding the results of the development effort.

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